# Staphylococcus Aureus (secondary bacterial pneumonia and concurrent acute conjunctivitis)

Notes:

1. Staph. Aureus and Strep. Pneumoniae are most common cause of post-viral pneumonia especially in the elderly
2. determining the cause of pneumonia is based on many approaches, not all work: sputum and staining, blood cultures, X-ray details- abscess formation etc.

Presentation:

1. 62 yr old with fever, SOB, productive cough, chest pain, thick yellow eye discharge
2. was chain smoker, had just overcome flu. Decreased breath sounds and rales. Purulent exudates from eye (erythematous palpebral conjunctiva noted)
3. Blood cultures / gram stain of sputum and exudates done.

Staph. Aureus

1. gram positive cocci occurring in clusters
2. nonmotile, no spores, catalase positive
3. temp / salt resistant
4. coagulase positive – key to identifation

Epidemiology

1. nasal carriers are reservoir – 20%
2. also on surface of the skin
3. can get infection through:
   1. aspiration- pneumonia
      1. usually after influenza virus
   2. hematogenous mode- drug use

Pathogenesis:

1. when have flu, virus destroys all ciliary defenses🡪 allows colonization of S. Aureus (opportunistic) in the lung🡪 uses teichoic acid to adhere🡪 penetrates mucosa🡪 get pyogenic inflammatory response
2. Inflammatory response causes an Abscess- fibrin wall surrounded by inflamed tissues enclosing central core of pus containing organisms and leukocytes in the alveloli = causes opactity on chest X ray
3. tissues of the eye were infected by spread from runny nose / throat (wiping etc.)

Treatment / Prevention

1. high dose of IV antistaphyloccocal penicillin (nafcillin) for minimum of 2 weeks
2. in resistant strains- use Vancomycin
3. get flu vaccine to prevent such opportunistic infections